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# AGRICULTURAL PROSPECTS IN CHILE

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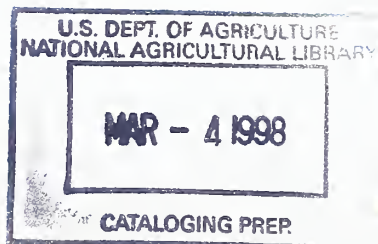
This report is a brief review of Chile: Demand and Supply Projections for Agricultural Products, 1965-1980, a market development study conducted by the Economic Research Center of the Catholic University of Chile, under contract with the U.S. Department of Agriculture. <sup>1/</sup> The study is one of a series initiated by the USDA and designed to evaluate the long-run potential supply and demand for agricultural products throughout the world. Data used as a basis for projections are from Chilean sources and may vary from USDA estimates. Hence, this review of study results does not necessarily imply concurrence by the U.S. Department of Agriculture.

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Chile occupies a narrow strip of land along the western slopes of the Andes, 2,650 miles long and 250 miles wide at its broadest point. It covers an area of 286,400 square miles, excluding the Antarctic. Its climate varies from the subtropical to the very cold, and the rainfall is unevenly distributed from the totally dry Atacama desert in the north to the rain forests of Aisén in the south. The agricultural land of the country is limited by the topography to about 20 percent of its area, the rest being deserts, mountains, or areas too cold for agricultural use. Crops are concentrated in the Central Valley, which lies between the Andes and the coastal range, from the Aconcagua River valley, a little north of Santiago, to the city of Puerto Montt. North of the Aconcagua River are deserts, where only a few scattered oases and river valleys are suitable for agricultural cultivation. The area south of Puerto Montt is suitable mainly for the livestock industry and forestry. Chile's long sea-coast, rich in marine life, has served to develop an important fishing industry, and sizable forest reserves of the south are being tapped for development of the paper industry. A variety of high-grade mineral resources, such as copper, iron, nitrates, coal, and petroleum, form the base of her international trade and industrial development.

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<sup>1/</sup> The complete study may be obtained on request from the Division of Information, Office of Management Services, U.S. Department of Agriculture, Washington, D.C. 20250



The 1969 population of Chile is estimated at about 9.5 million. It is relatively homogeneous, with per capita education and income levels that are high relative to other Latin American countries. About 70 percent of the people live in urban areas. This proportion is still increasing. The Chilean economy has achieved a reasonably respectable rate of economic growth despite institutional limitations and continued high inflation. The agricultural sector, however, has been stagnant. Chile's principal exports consist of copper and copper products, iron ore, nitrates, molybdenum, iodine, paper and cellulose, fish flour, fish and shellfish, wool, wood, and fruits. Its principal imports are industrial equipment and machinery, motor vehicles and spare parts, iron, steel and other raw materials, chemical products, wheat, breeding cattle, cotton, sugar, coffee, tea, and edible oils. The United States is Chile's single most important trading partner. In 1965, the United States accounted for 30 percent of Chile's total exports and 39 percent of her total imports.

### STUDY HIGHLIGHTS

Relatively high rates of population growth, an increase in per capita income, and the continued shift of people from rural to urban areas will continue to increase the demand for agricultural products. However, the improvement in agricultural production may not be sufficient to compensate for rising demand, and the gap between agricultural exports and imports is expected to increase in the projected years.

If the population of Chile increases at the projected rate of 2.6 percent a year and present agricultural policies are not significantly changed, continued large imports of wheat may be expected, and increasing imports of potatoes, edible oils, sugar, beef, milk and milk products, animal fats, and hides and skins will be necessary. Deficits may also appear in mutton and lamb, corn, dry peas, and chickpeas. On the other hand, fruit exports may improve significantly. Surpluses may also appear in rice, dry beans, pork, poultry meat, and eggs.

These projections are based on a study of the Chilean economy from 1940 to 1968 and, in particular, on analyses of agricultural supply and demand, capital, land and labor availability, agricultural policies, gross domestic product (GDP), population growth, and trade. Chile's population is expected to grow from 8.8 million in 1965 to about 10.0 million in 1970, and to 12.9 million in 1980. However, more recent statistics seem to indicate that the rate of 2.6 percent annual population growth, adopted for projections, may be excessive, and that it may have dropped to about 2 percent. Real GDP is projected to increase 4.7 percent per year, and per capita GDP, 2.1 percent per year, or from \$529 in 1965 to \$726 in 1980, in 1965 prices. Chile's foreign trade is heavily dependent on exports of mining products, which account for over 80 percent of the total value of exports. In this total, copper is the single most important commodity (48 percent of total exports in 1965). Hence, the international price of copper will largely influence Chile's future trade balance. If the price remains high, the positive trade balance on goods account will increase from \$28 to \$93 million between 1965 and 1980. If, on the other hand, low prices predominate, by 1980 Chile may have a negative balance of \$120 million. Chile's deficit in agricultural commodity trade is expected to increase from \$90 million in 1965 to nearly \$200 million in 1980 (table 1).



Table 1.--Chile: Projections of principal macroeconomic variables, 1965-80

Variables	Unit	1965	1970	1975	1980	Annual rate of growth 1965-80
						Percent
Population. . . . .	Thousands	8,786	9,969	11,349	12,912	2.6
Per capita gross domestic product . . . . .	Dollars <u>1/</u>	529	601	663	726	2.1
Total gross domestic pro- duct. . . . .	Mil. \$ <u>1/</u>	4,646	5,989	7,523	9,372	4.7
Total exports: <u>2/</u>						
High projections <u>3/</u> . .	" "	677	990	1,278	1,497	5.4
Low projections <u>4/</u> . .	" "	677	841	1,084	1,284	4.4
Total imports <u>2/</u> . . . .	" "	649	855	1,098	1,404	5.3
Trade balance: <u>2/</u>						
High projections. . . .	" "	28	135	180	93	-
Low projections . . . .	" "	28	-14	-14	-120	-
Exports of agricultural products <u>5/</u> . . . . .	" "	19	50	68	75	9.6
Imports of agricultural products <u>5/</u> . . . . .	" "	109	134	192	274	6.3

1/ In 1965 dollars at the average exchange rate for the year. 2/ Goods only.  
3/ Assume copper prices of 37.5¢ U.S. per pound. 4/ Assume copper prices of 30.0¢  
U.S. per pound. 5/ Excludes forestry and fishery products. - Does not apply.

Sources: Tables 3, 5, 2.24, 2.29, and 5.39, Chile: Demand and Supply Projections  
for Agricultural Products, 1965-1980.

### Projected Demand

Projections of direct demand for most of the products included in the study are based on the results obtained from the Family Budget Survey conducted by the study group during 1963-64. In the demand projections, direct demand was made a function of income, family size, and population. This assumed that the demand pattern in the basic consumption unit, a household, depends on family income and size. Seed, industrial demand, and waste were estimated from technical coefficients and added to direct demand. Prices were assumed to remain constant (tables 2 and 3).

Per capita demand for most agricultural commodities is expected to increase, with the fastest increase being registered in the consumption of fruits, meats, and some vegetables--indicating that the quality of diet will continue to improve. Since the standard of living in Chile is relatively high for Latin America, these changes will not seriously affect the overall pattern of demand, except to raise the proportion of fruits in the diet and to partially displace beef with poultry meat and pork.

Table 2.--Chile: Demand and supply balance for agricultural products, 1965-80

Commodity	Total demand 1/			Production 2/			Balance 3/					
	1965	1970	1975	1980	1965	1970	1975	1980	1965	1970	1975	1980
	1,000 metric tons											
Grains:												
Wheat. . . . .	1,471.6	1,734.1	2,069.3	2,448.1	1,086.2	1,549.9	1,865.7	2,244.4	-385.4	-184.2	-203.6	-203.7
Rice (milled). . . . .	68.4	82.2	98.9	118.9	53.4	102.4	120.6	126.6	-15.0	20.2	21.7	7.7
Rye. . . . .	8.6	9.5	10.7	12.0	8.6	9.6	10.8	12.2	--	.1	.1	.2
Corn . . . . .	253.8	317.2	389.8	421.0	253.8	317.6	390.3	416.0	--	.4	.5	-5.0
Barley (malt). . . . .	67.6	94.7	102.0	114.0	67.6	94.7	102.0	114.0	--	--	--	--
Oats . . . . .	88.2	120.5	155.0	164.5	88.2	120.5	155.0	164.5	--	--	--	--
Pulses:												
Dry beans. . . . .	56.2	65.4	76.2	90.0	55.4	78.7	90.8	105.0	-.8	13.3	14.1	15.0
Dry peas . . . . .	5.4	6.5	7.9	9.7	5.4	5.8	6.2	6.7	--	-.7	-1.7	-3.0
Lentils. . . . .	4.8	5.5	6.3	7.0	9.1	9.7	10.3	10.8	4.3	4.2	4.0	3.8
Chickpeas. . . . .	5.0	5.9	7.2	8.7	5.0	5.4	5.7	6.0	--	-.5	-1.5	-2.7
Tubers and vegetables:												
Potatoes . . . . .	712.8	832.2	981.7	1,162.6	705.8	786.9	877.3	978.1	-7.0	-45.3	-104.4	-184.5
Tomatoes . . . . .	103.3	127.9	159.1	199.8	n.a.	n.a.	n.a.	n.a.	--	--	--	--
Onions . . . . .	87.7	106.4	130.4	160.2	122.2	133.9	149.3	166.0	34.5	27.5	18.9	5.8
Garlic . . . . .	5.0	5.9	7.1	8.9	6.5	6.5	7.0	9.5	1.5	.6	-.1	.6
Fruits:												
Apples . . . . .	99.8	123.5	166.0	207.6	121.4	140.5	190.4	268.3	14.4	17.0	24.4	60.6
Pears. . . . .	21.6	27.0	39.3	55.8	24.2	29.7	49.6	72.0	2.6	2.7	10.3	16.2
Peaches. . . . .	63.3	73.3	108.2	145.2	70.6	88.6	144.6	204.3	7.3	9.0	36.4	59.1
Oranges. . . . .	48.6	59.2	75.3	94.8	48.6	49.4	74.2	94.2	--	-9.8	-1.1	-.6
Lemons . . . . .	23.9	30.0	38.6	49.4	26.7	36.4	45.8	58.1	2.8	6.4	7.2	8.7
Plums. . . . .	4.9	6.4	8.1	10.9	14.7	17.2	19.7	24.1	9.8	10.8	11.4	13.2
Table grapes . . . . .	50.1	61.0	76.8	97.5	57.9	72.4	98.0	124.7	7.8	11.4	21.2	27.2
Wine grapes. . . . .	671.1	790.3	899.8	1,024.2	686.2	770.2	930.1	1,012.9	15.1	-20.1	30.3	-11.3
Avocados . . . . .	11.5	14.4	19.4	26.0	11.5	15.6	22.4	29.9	--	1.2	3.0	3.9
Nuts in shell. . . . .	.7	.9	1.3	1.7	2.2	2.5	4.9	7.0	1.5	1.6	3.6	5.3
Edible oils 4/ . . . . .												
	62.8	77.1	94.8	105.5	44.5	56.5	67.3	71.1	-18.3	-20.6	-27.5	-34.4
Sugar (refined). . . . .												
	294.2	356.7	435.6	532.3	102.0	120.6	133.8	140.6	-192.2	-236.1	-301.8	-391.7

See footnotes at end of table.

- Continued

Table 2.--Chile: Demand and supply balance for agricultural products, 1965-80 - Continued

Commodity	Total demand 1/				Production 2/				Balance 3/			
	1965	1970	1975	1980	1965	1970	1975	1980	1965	1970	1975	1980
	1,000 metric tons											
Meats and eggs:												
Beef. . . . .	166.0	204.5	253.9	315.4	121.7	130.3	138.3	147.1	-44.3	-74.2	-115.6	-168.3
Pork and pork products:	43.9	56.6	72.9	93.6	48.9	69.0	88.5	102.2	5.0	12.4	15.6	8.6
Mutton and lamb . . .	42.0	53.6	68.4	87.3	44.1	50.5	55.6	59.1	1.9	-3.1	-12.8	-28.2
Poultry meat. . . . .	27.3	49.8	56.7	64.6	24.3	55.8	68.1	83.1	-3.0	6.0	11.4	18.5
Eggs. . . . .	50.7	63.4	78.8	98.1	50.7	76.6	93.4	114.0	--	13.2	14.8	15.9
Milk & milk products 5/	1,191.4	1,473.9	1,821.8	2,288.9	810.2	892.6	983.2	1,083.1	-381.2	-581.3	-828.6	-1,205.8
Other animal products:												
Lard. . . . .	7.9	9.6	11.8	14.4	2.5	3.3	4.1	4.7	-5.4	-6.3	-7.7	-9.7
Tallow. . . . .	11.2	12.6	13.2	14.1	11.2	12.6	13.2	14.1	--	--	--	--
Wool. . . . .	22.8	25.9	29.5	33.6	25.4	27.9	30.1	31.8	2.6	2.0	.6	-1.8
Cattle hides & skins.	24.6	26.9	30.6	34.9	14.3	15.3	16.3	17.3	-10.3	-11.6	-14.3	-17.6

1/ Total demand includes direct industrial and seed demand and waste. 2/ Production of crops was projected for the main agricultural area only, situated between the provinces of Aconcagua and Llanquihue inclusive. 3/ Minus (-) indicates potential imports and plus (+) potential exports. 4/ Production of sunflower seed and rapeseed oil only. 5/ Fresh milk and milk products expressed in fresh milk equivalent.

Source: Table 4, Chile: Demand and Supply Projections for Agricultural Products, 1965-1980.

Table 3.--Chile: Demand elasticities and projections of per capita demand, 1965-80

Commodity	Demand elasticities				Per capita demand			
	Income		Family size		1965	1970	1975	1980
	Workers	Others	Workers	Others				
						- - Kilograms - -		
Grains:								
Wheat 1/	-	-	-	-	156.2	162.3	170.9	178.5
Bread 2/	0.2	0.1	0.5	0.5	-	-	-	-
Spaghetti	.2	.1	.4	.3	-	-	-	-
Flour	.7	.2	.2	.1	-	-	-	-
Rice (milled)	.4	.2	.4	.3	7.4	7.8	8.2	8.8
Rye	n.a.	n.a.	n.a.	n.a.	.8	.8	.8	.8
Corn.	n.a.	n.a.	n.a.	n.a.	1.8	1.8	1.8	1.8
Oats.	n.a.	n.a.	n.a.	n.a.	7.4	7.9	8.5	9.0
Pulses:								
Dry beans	.2	.1	.6	.5	5.6	5.8	6.0	6.3
Dry peas	.6	.5	.2	.1	.5	.5	.6	.7
Lentils	.3	.2	.7	.6	.3	.3	.3	.4
Chickpeas	.3	.3	.1	.1	.5	.5	.6	.6
Tubers & vegetables:								
Potatoes.	.5	.3	.4	.3	59.5	63.0	67.2	71.9
Tomatoes.	1.2	.5	.5	.5	11.8	12.8	14.0	15.4
Onions.	.7	.2	-.1	.3	8.6	9.3	10.2	11.1
Garlic.	.5	.3	.2	-.3	.5	.5	.6	.6
Fruits:								
Apples.	.5	.9	0	-.3	8.1	9.2	11.5	13.2
Pears					1.9	2.2	2.7	3.4
Peaches	1.6	1.1	-.2	.1	4.5	5.1	5.9	6.9
Oranges	.1	.6	.7	-.1	5.0	5.5	6.1	6.8
Lemons.	1.0	.6	.3	0	2.7	3.0	3.4	3.8
Plums	n.a.	n.a.	n.a.	n.a.	.4	.5	.6	.7
Table grapes.	.9	.5	-.8	.3	4.9	5.4	5.9	6.6
Wine grapes	n.a.	n.a.	n.a.	n.a.	79.3	79.3	79.3	79.3
Avocados.	1.1	.6	.7	-.1	1.3	1.5	1.7	2.0
Edible oils.	.6	.4	-.1	.1	6.0	6.5	7.1	7.0
Sugar (refined).	.5	.4	.3	.2	32.5	34.8	37.4	40.3
Meat and eggs:								
Beef.	.6	.6	0	.1	19.0	20.5	22.4	24.4
Pork & pork products.	1.1	1.1	.3	-.3	5.0	5.7	6.4	7.2
Mutton and lamb	1.3	.8	.1	0	4.8	5.4	6.0	6.8
Poultry meat.	1.6	1.2	-.7	-.5	3.1	5.0	5.0	5.0
Eggs.	.6	.6	0	.1	5.2	5.7	6.2	6.8

See footnotes at end of table.

- Continued



Table 3.--Chile: Demand elasticities and projections of per capita demand, 1965-80 - Continued

Commodity	Demand elasticities				Per capita demand			
	Income		Family size		1965	1970	1975	1980
	Workers	Others	Workers	Others				
						- -	-Kilograms-	- -
Milk & milk products <sup>3/</sup>	-	-	-	-	129.8	142.2	155.1	172.0
Fresh milk. . . . .	.6	.7	.2	.1	-	-	-	-
Condensed milk. . . . .	1.0	1.0	-.1	.4	-	-	-	-
Powdered milk . . . . .	1.2	.7	.1	.1	-	-	-	-
Butter. . . . .	.8	.6	.1	.1	-	-	-	-
Cheese. . . . .	.9	.7	0	.4	-	-	-	-
Other animal products:								
Lard. . . . .	.9	.5	.6	.5	.8	1.0	1.0	1.1
Wool. . . . .	n.a.	n.a.	n.a.	n.a.	2.6	2.6	2.6	2.6
Hides & skins (cattle)	n.a.	n.a.	n.a.	n.a.	2.7	2.7	2.7	2.7

<sup>1/</sup> Per capita demand for wheat flour and flour products expressed in whole wheat equivalent. <sup>2/</sup> Demand elasticities refer also to rye bread. <sup>3/</sup> Per capita demand for milk and milk products expressed in fresh milk equivalent.

n.a. Not available. - Does not apply.

Sources: Tables 4 and 3.2, Chile: Demand and Supply Projections for Agricultural Products, 1965-1980.

### Projected Supply

Supply projections for crops are based on an analysis of total available land, cultivated land, area under each crop, and yields. The projections of animal products take into account trends in inventory numbers, slaughter rate, and yields, except for milk and poultry products where data were available for production only. Projected trends were adjusted in the light of government investment programs. The possible impact on production of the current land reform was also taken into account. Although government price policy was discussed, input and product prices were assumed to remain constant. A scarcity of capital and government policies are considered to be the principal limiting elements in the increase of farm production, since land and labor supply are considered adequate (tables 2, 4, and 5).

The greatest increases in production are expected to occur in poultry products--8.6 percent per year for poultry meat and 5.5 percent for eggs--as a result of recent improvements in poultry breeding and management. Supplies of pork and lard will also increase substantially, at about 5.4 and 4.3 percent per year, due to the increase in productive efficiency of the pork industry.

Table 4.--Chile: Projected area under principal crops and yields, 1965-80 1/

Commodity	Area				Annual rate:				Yields				Annual rate	
	1965	1970	1975	1980	of growth:				1965	1970	1975	1980	of growth	
	-- 1,000 hectares--				Percent				-- Kilograms per hectare--				Percent	
Wheat . . . . .	696.3	738.3	780.2	822.1	1.1	1.1	1.1	1.1	1,560	1,950	2,250	2,596	3.4	3.4
Rice . . . . .	27.6	29.5	31.5	33.6	1.3	1.3	1.3	1.3	2,978	3,750	4,400	4,400	2.6	2.6
Rye . . . . .	7.1	7.6	8.0	8.5	1.2	1.2	1.2	1.2	1,190	1,263	1,350	1,435	1.2	1.2
Corn . . . . .	83.1	87.3	91.6	96.0	1.0	1.0	1.0	1.0	3,054	2/ 3,200	2/ 3,900	2/ 4,000	1.8	1.8
Barley . . . . .	31.9	34.9	35.8	40.8	1.7	1.7	1.7	1.7	2,119	2/ 2,500	2/ 3,000	2/ 3,100	0.1	0.1
Oats . . . . .	67.2	72.1	76.9	81.8	1.3	1.3	1.3	1.3	1,316	2,256	2,402	2,402	2.8	2.8
Dry beans . . . . .	55.8	60.5	65.3	70.0	1.5	1.5	1.5	1.5	993	1,300	1,390	1,500	2.8	2.8
Dry peas . . . . .	7.1	7.8	8.4	9.1	1.7	1.7	1.7	1.7	740	740	740	740	0	0
Lentils . . . . .	23.5	25.0	26.5	28.0	1.2	1.2	1.2	1.2	387	387	387	387	0	0
Chickpeas . . . . .	8.4	8.9	9.4	9.9	1.1	1.1	1.1	1.1	610	610	610	610	0	0
Potatoes . . . . .	76.7	80.8	84.8	88.9	1.0	1.0	1.0	1.0	7,740	8,206	8,703	9,237	1.1	1.1
Onions . . . . .	4.7	4.9	5.2	5.5	1.0	1.0	1.0	1.0	26,000	27,326	28,720	30,185	1.0	1.0
Garlic . . . . .	1.3	1.3	1.4	1.9	2.6	2.6	2.6	2.6	5,000	5,000	5,000	5,000	0	0
Rapeseed . . . . .	57.5	58.4	59.4	60.5	0.3	0.3	0.3	0.3	1,250	1,600	1,850	1,900	2.8	2.8
Sunflowerseed . . . . .	31.8	33.8	35.7	37.6	1.1	1.1	1.1	1.1	1,410	1,600	1,850	1,900	2.0	2.0
Sugarbeets 4/ . . . . .	17.8	18.4	18.9	19.6	0.7	0.7	0.7	0.7	37,940	43,420	46,880	47,500	1.5	1.5
Total	1,197.8	1,269.6	1,339.2	1,413.6	1.1	1.1	1.1	1.1	-	-	-	-	-	-

1/ Area and yields projected for the main agricultural area only, situated between the provinces of Aconcagua and Llanquihue inclusive.

2/ Projections based on trend for the region between the provinces of Aconcagua and Talca. 3/ Projections based on experimental station estimates for the region between provinces of Maule and Llanquihue. 4/ Yields expressed in sugar weight. - Does not apply.

Sources: Tables 4.5 and 4.10, Chile: Demand and Supply Projections for Agricultural Products, 1965-1980.

Table 5.--Chile: Projected livestock numbers and yields, 1965-80

Livestock	: : 1965	: : 1970	: : 1975	: : 1980	: : Annual rate of growth 1965-80
	: :	: :	: :	: :	: : <u>Percent</u>
Beef cattle:					
Number of cattle (1,000 head)	: 2,870.2	3,076.4	3,256.3	3,472.7:	1.3
Number slaughtered (1,000 head)	: 520.0	556.8	591.2	628.6:	1.3
Yield (kilograms meat per animal slaughtered). . . . .	: 234.0	234.0	234.0	234.0:	0
Hogs:					
Number of hogs (1,000 head) . .	: 1,090.2	1,134.5	1,192.3	1,253.1:	1.0
Number slaughtered (1,000 head)	: 815.0	1,103.2	1,361.7	1,572.0:	4.5
Yield (kilograms meat per an mal slaughtered). . . . .	: 60.0	62.5	65.0	65.0:	0.5
Sheep (meat variety):					
Number of sheep (1,000 head). .	: 3,639.6	3,930.7	4,245.2	4,584.8:	1.6
Number slaughtered (1,000 head)	: 2,474.8	2,774.1	3,006.6	3,193.8:	1.7
Yield (kilograms meat per animal slaughtered). . . . .	: 17.8	17.8	17.8	17.8:	0
Sheep (all varieties) . . . . .	: 6,690.3	7,169.8	7,539.1	7,878.7:	1.1
Yield (kilograms wool per head)	: 3.8	3.9	4.0	4.0:	0.3

Sources: Tables 4.13, 4.14, 4.15, 4.16, 4.18, 5.27, 5.28, 5.29, 5.36, 5.37,  
Chile: Demand and Supply Projections for Agricultural Products, 1965-1980.

The supply of fruits and nuts is also estimated to increase rapidly, at the annual rate of 5 to 7 percent, reflecting the rates inherent in the government agricultural development plan and the productive capacity of new fruit plantings. Only the supply of wine grapes is expected to fall behind the increase in demand.

The production increases for rice and wheat, 5.9 and 5.0 percent, respectively, will both exceed the increase in demand. The increase in supply will be due mainly to an increase in yields through application of fertilizers and better control of weeds and pests.

Supplies of corn, barley, rye, and oats are generally expected to keep up with the demand, with a small improvement in yields and extension of cultivated areas. The supply of dry beans will exceed demand due to the improvement of yields, but the increase in the supply of other pulses will be lower than the increase in demand. The supply of tubers and vegetables is also expected to grow at a slower rate than demand, except for tomatoes. The supply of tomatoes is expected to meet the demand although due to the lack of data projections for the production of tomatoes could not be made.

Increases in the supply of beef, mutton and lamb, milk, sugar, and edible oils are expected to be of the order of 1.3, 2.0, 2.1, 2.2, and 3.2 percent per year, respectively, whereas the demand for these products will increase 4 to 5 percent per



year. Consequently, the supply of byproducts such as hides and skins, tallow and wool will reflect similar increases. Underlying these rates of growth are historical trends showing a slow increase in the number of animals and in yields. Present policies and plans may not be sufficient to substantially change Chile's agricultural production structure and to improve the supply.

### Projected Trade

Imports of wheat are projected to decrease from the 1965 level of 385,400 metric tons but still remain at about 200,000 tons through 1980. In view of the recent severe drought and apparent underestimation of import requirements, it is more likely that 1970 imports will be about 425,000 tons. The 1980 imports may also be underestimated. In the case of rice, the moderate deficits of the past are projected to change into a small exportable surplus. While the projected achievement of a rice surplus by 1970 is very unlikely, over the longer run to 1980 Chile will probably be self-sufficient in rice and even produce a small surplus. Chile has been largely self-sufficient in corn but is projected to develop a small deficit by 1980. However, recent statistics seem to suggest that instead of the nearly balanced supply-demand position projected for 1970, the country may have to import over 200,000 tons of corn due to the severity of the recent drought. The 1980 deficit may also be greater than projected (table 2).

Substantial increases in imports are projected for edible oils, sugar, beef, milk and milk products, lard, and hides and skins. For potatoes, although the projections show a large increase in the supply-demand deficit, only a small proportion of this deficit will be translated into actual imports. An internal price adjustment to stimulate production or to decrease demand is more likely than a large increase in the volume of imports. Also, new and substantial imports of mutton and lamb are expected, while occasional imports of dry peas and chickpeas may be needed. Deficits are also expected to develop in supplies of wine grapes, but it is unlikely that Chile will import grapes. The relaxation of restrictions on planting new vineyards and some increase in the price of wine are more probable.

On the export side, fruits have constituted Chile's principal agricultural exports, and they are projected to expand considerably, particularly those of apples, peaches, table grapes, pears, plums, and lemons. Onions and lentils have also been exported, but these exports may decline in the future, while exports of pork and pork products will increase. Finally, dry beans, poultry meat, and eggs are projected to appear on the export list. No doubt some of the surplus shown for pork, poultry meat, and eggs may compensate for the deficit in beef production, so that actual exports of the former, or imports of the latter, will be smaller than the supply-demand balances indicate.

Chile is expected to balance its supply and demand of the other products included in the study, such as barley, oats, oranges, tomatoes, garlic, and tallow.

These projected commodity balances are valid only if the assumed rate of population growth continues. If it decreases to about 2 percent (the rate estimated by the Chilean Minister of Public Health for 1966 and 1967) actual imports in the projected years will be smaller and exports larger than the balances show. However, the effect of this lower population growth rate on commodity balances was not quantified in the study since no revised population projections were yet available when the study was being completed.

### Some Study Implications



Supply and demand projections for Chile indicate that the country has the potential of becoming largely self-sufficient in agricultural production. It can also develop substantial new agricultural exports in addition to fruit exports. Both potentials, however, seem unlikely to be fulfilled significantly in the projected period. The chief obstacles to self-sufficiency are insufficient capital available on the farm level, an inadequate road network which restricts the produce market, government price policies, and uncertainty regarding land ownership which has accompanied the land reform now in progress. Some important improvements have been made in farming practices, but to change the situation substantially it will be necessary to offer new incentives to the farmers and to develop better marketing facilities.

The Latin American Free Trade Association agreements will tend to restrict imports of agricultural commodities from outside the region. However, the implementation of the agreements seems necessarily to be a slow process. Hence, Chile will probably remain a market for such U.S. exports as wheat, milk products, tobacco, prepared meats, edible oils, and breeding animals. The United States will continue to import from Chile fruits and vegetables, such as table grapes, melons, pears, onions, and garlic. But efforts will be made in Chile to further diversify its markets and sources of supply.



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OFFICIAL BUSINESS

